

## NOTES ON THE FLORA OF COÖS COUNTY, NEW HAMPSHIRE, II.

During the summer of 1965 I made more than a thousand collections in Coös County and after these were processed this winter I finally had a chance to evaluate the catalogue of Pease's Flora of Northern New Hampshire. The county is divided into 43 organized and unorganized townships which vary greatly in the number of taxa cited from them. At the top of the list are Shelburne and Randolph, each being represented by over 800 taxa. At the other end of the scale are thirteen unorganized townships which are represented by less than 100 taxa each, Dix Grant is cited five times, Colebrook Academy Grant three and Pease had seen no specimens from Erving Location.

For this reason Erving Location became my first objective last summer. Through the kindness of the International Paper Company and Mr. W. A. Ruck I was able to travel their Phillips Brook Road and make collections in the location at three periods during the summer. The township is now better represented than several townships located on main highways.

Colebrook Academy Grant seemed to be the logical target for 1966. However townships are not always the stable entities we picture them to be. This grant was a small area bounded on three sides by Pittsburg and on the fourth side by the Province of Quebec. It no longer appears on the U. S. G. S. map of the quadrangle, having apparently been absorbed by Pittsburg. The loss of this township to the county is compensated by the appearance on the more recent maps of the Mount Washington region of Chandler Purchase. This is an unlikely-looking strip five miles long and only a half mile wide extending from Millen Hill near Jefferson Notch southward to Mount Pleasant in the Presidential Range. I have seen no specimens collected in Chandler Purchase.

Town lines are not sacrosanct. On editions of the U. S. G. S. maps published since about 1925 many of the town boundaries have been drastically changed from those shown



on earlier editions. On the 1896 sheets for Mount Washington and Crawford Notch the western boundary of Cutts Grant extends up the western side of the Dry River valley, crosses the ridge of the Presidential Range between Mount Pleasant and Mount Franklin and continues to a point northwest of the summit of Mount Monroe. The northern boundary follows a zig-zag course to Boott Spur and the eastern boundary extends down the eastern side of Dry River. Thus Cutts Grant includes a portion of the Crawford Path, the summits of Mount Franklin and Mount Monroe and the headwall of Oakes Gulf, some of the prime botanical areas of the Mount Washington region. On the Crawford Notch sheet of 1946 the western boundary of Cutts Grant is at least a half mile east of the ridge of the Presidential Range. Its northernmost point is at an elevation of about 4100 feet on the southern slopes of Mount Franklin. The northern boundary extends across to Gulf Peak, about a mile south of Boott Spur. Little if any of the present limits of the grant is above timberline. Prof. Pease in his citations retains the old boundaries of the township; thus of over one hundred taxa cited from the grant the number collected from within its present limits can be counted on the fingers of one hand and none of them are strictly mountain species. The alpines were all collected in Sargent Purchase.

The southern boundary of Hadley Grant has also been shifted on the more recent maps. While the number of taxa involved is much less, a number cited from Hart Ledge in this township were actually collected in Hart Location which is in Carroll County rather than Coös. This is unfortunate since some of the taxa are southern elements unknown elsewhere in Coös County.

Some interesting finds in my 1965 collections and a few changes which should be made in the Pease Flora follow.

*Equisetum arvense* L., forma *campestre* (C. F. Schultz) Klinge. Millsfield, moist ditch beside road to Big Millsfield Pond, *Harris* 27271b (65). This form with a strobilus terminating a green vegetative stem is new to the County.

× *Equisetum litorale* Kuhlewein. Erving Location, moist ground, *Harris* 27520 (65). The third township for the County.

*Equisetum variegatum* Schleich., var. *variegatum*. Erving Location,



wet ground, *Harris* 27815 (65). This taxon appears in Pease's list of Species Exclusae. My collections of this and the previous species were verified by Dr. Rolla Tryon. *Pease* 39615 (59) from Stratford cited in the Flora as var. *Jesupi* is also var. *variegatum* and var. *Jesupi* should be retired to the list of Species Exclusae.

*Bromus Dudleyi* Fern. Martin Location, damp woods Dolly Copp, *Harris* 1822 (33). The third collection from the County; better late than never!

*Eragrostis poaeoides* Beauv. Berlin, roadbed of Grand Trunk Railway, *Harris* 27677 (65). *Pease* 29851 (42) from Milan cited as *E. pectinacea* should be changed to this species. These are the second and third collections from the County.

*Lolium multiflorum* Lam., var. *diminutum* Mutel. Millsfield, roadside, *Harris* 28262 (65). First collection in the County.

*Triticum aestivum* L. Milan, roadbed of Grand Trunk Railway, *Harris* 27618 (65); Berlin, roadbed of Grand Trunk Railway, *Harris* 27685 (65). One previous collection from the County.

*Secale cereale* L. Columbia, roadside Cilley Hill, *Harris* 28306 (65); Cambridge, roadside rte. #16, *Harris* 27254 (65). New to the County.

*Digitaria sanguinalis* (L.) Scop. Columbia, roadside U. S. rte. #3, *Harris* 28351 (65). Third and most northern collection from the County; *D. Ischaemum* is the common crab-grass for the area.

*Echinochloa crusgalli* (L.) Beauv., forma *longiseta* (Trin.) Farw. Millsfield, roadside rte. #26, *Harris* 28279 (65). New to the County.

*Scirpus atrovirens* Willd., var. *georgianus* (Harper) Fern., forma *viviparus* Vict. Erving Location, moist ground, *Harris* 28179 (65). Three previous collections from the County.

*Arisaema Stewardsonii* Britt. Colebrook, damp ground along Mohawk River, *Harris* 27241 (65). A new native species for the County.

*Cypripedium acaule* Ait. forma *acaule*. Millsfield, moist woods on road to Big Millsfield Pond, *Harris* 27345 (65); Dummer, moist woods on woodroad to Dummer Ponds, *Harris* 27229 (65). While Pease indicates that forma *albiflorum* is general in the County, he cites no collections of the pink-flowered form from north of Randolph. There is no question that forma *albiflorum* is the commoner of the two in the northern portion of the County but a little searching will usually disclose that the typical form is present as well.

*Salix pentandra* L. *Pease* 33769 (48) from Colebrook cited as *S. fragilis* is *S. pentandra*, a new introduced willow for the County.

*Ulmus americana* L., forma *pendula* (Ait.) Fern. Dummer, woods Dummer Hill, *Harris* 27736 (65). New to the County.

*Polycnemon majus* (Schimp.) R. Br. Berlin, roadbed of Grand Trunk Railway, *Harris* 27670 (65). While my collection of this non-descript species is somewhat immature I am sure that there is no question of its identification. The genus is not included in Gray's Manual but does appear in the New Britton & Brown on the basis



of collections made in Ontario. The species is not represented in the herbarium of the New England Botanical Club and there are no specimens from North America in the Gray Herbarium. My collection is a good match of European material in the Gray Herbarium.

*Mirabilis nyctaginea* (Michx.) MacM. Berlin, near Grand Trunk Railway, *Harris* 27629 (65). This collection adds the Nyctaginaceae to the flora of Coös County. The station is well established on the outskirts of Berlin and must have been growing there for several years.

*Lychnis Flos-cuculi* L. Carroll, roadside rte. #302 one quarter mile east of Bethlehem line, *William Countryman* 840 (65). First collection from the County.

*Silene pumilio* Wulf. The station of this species on the Ammonoosuc Ravine Trail, reported by me last year, came through the winter well. This summer I visited the Mountain Valley Nursery in Jefferson Meadows and found the plant for sale there. Thus a source of supply for this obviously planted species was not far from Mount Washington.

*Silene Cserei* Baumg. Berlin, roadbed of Grand Trunk Railway, *Harris* 27649 (65). One previous collection from the County. This species grows with, and closely resembles, *S. Cucubalus*. It is probably more common in New England than present collections indicate.

*Ranunculus repens* L. Erving Location, moist ground, *Harris* 27473 (65). The third collection for the County.

*Chelidonium majus* L. Berlin, roadside Prospect Street, *Harris* 27628 (65). A flourishing colony; it seems strange that there has been only one other collection of this species made in the County.

*Arabis laevigata* (Muhl.) Poir. This species should be placed in the list of Species Exclusae; the only collection, Lancaster, *Pease* 39124 (58), is *A. glabra*.

*Ribes hirtellum* Michx., var. *saxosum* (Hook.) Fern. Northumberland, *Hodgdon, Lincoln & Steele* 11239 (59). New to the County.

*Pyrus Aucuparia* (L.) Gaertn. Whitefield, Bray Hill Road, *Pease* 34381 (49). New to the County.

*Potentilla Robbinsiana* Oakes. The entire Mount Washington population of this rare species is located in Sargent Purchase, not Cutts Grant as cited in Pease. In June of 1964 I moved six plants from the acre or two on which it occurs to another area which resembles its home site. In June 1965 five of the plants had survived the winter and I found the remains of the sixth; only one of the survivors bore flowers.

*Filipendula rubra* (Hill) Robins. Dummer, swale Dummer Hill, *Harris* 27742 (65). One previous collection from the County. This is an escape from cultivation. The farms on Dummer Hill were all abandoned fifty years ago and the swale in which I found the plant is a considerable distance from any of these old farms. The colony consisted entirely of basal leaves. When I planted some hardy peren-



nials at my camp on the hill about fifteen years ago I accidentally introduced a few plants of this species and my plants too produce only basal leaves.

*Rubus rarus* Bailey. *R. rarus*, the last taxon on page 190, should read *R. rarus*.

*Lotus corniculatus* L. Milan, pasture Spruceville, *Harris* 27867 (65). This makes a fourth township for this species which was added to the County flora last year.

*Oxalis europea* Jord., forma *villicaulis* Wieg. Milan, roadbed of Grand Trunk Railway, *Harris* 27614 (65). The second collection from the County.

*Viola papilionacea* Pursh, var. *albiflora* Grover. Dummer, Dummer Hill, *Harris* 27188 (65). This violet has escaped from the garden and become thoroughly established in the lawn at our camp; new to the County.

*Epilobium angustifolium* L., forma *albiflorum* (Dumort.) Haussk. Erving Location, roadside bank, *Harris* 27803 (65). A fourth township for the County. I normally take a dim view of reporting every white-flowered form seen of common species but this produced the most spectacular floral display I found in Erving Location. The bank was covered entirely by tall plants of this color form for a distance of about 150 feet.

*Panax trifolius* L. Dummer, along road up Dummer Hill, *Harris* 27180 (65). The third township in the County for this species.

*Convolvulus sepium* L., forma *coloratus* Lange. Berlin, roadside rte. #16, *Harris* 27625 (65). Prof. Pease did not differentiate between this form and forma *sepium*. In his citations for the species the following are definitely forma *coloratus*: Colebrook 10887 = M 3927 (07); Northumberland 12212 (09); Lancaster 12122 (09); Berlin 16127 (14); M Location 12186 = M 4074 (07); Whitefield Deane (96).

*Mentha arvensis* L., forma *lanata* (Piper) S. R. Stewart. Stark, ledges Crystal Falls, *Harris* 28354 (65). The second collection for the County.

*Veronica peregrina* L., var. *peregrina*. Jefferson, weed in beds of Mountain Valley Nursery, *Harris* 27703 (65). New to the County.

*Rhinanthus Crista-galli* L. Randolph, Bog Dam road between Camp 18 and Camp 19, *Harris* 27713 (65). Species previously known only from Pittsburg.

*Rudbeckia serotina* Nutt., forma *homochroma* (Steyerm.) Fern & Schub. Dummer, our field Dummer Hill, *Harris* 27851 (65). New to the County.

*Rudbeckia serotina*, forma *pleniflora* (Moldenke) Fern. & Schub. Dummer, our field Dummer Hill, *Harris* 27852 (65). Second collection from the County.



*Leontodon autumnalis* L., var. *pratensis* (Link) W. D. J. Koch.  
G Grant, *Pease 40005* (62). New to County.

*Hieracium paniculatum* L., forma *glandulosum* R. Hoffm. Dummer,  
Dummer Hill, *Harris 28231* (65). Second collection for the County.

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